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(71) Applicant (for all designated States except US): KONINKLIJKE KPN N.V. [NL/NL]; Stationsplein 7, NL-9726 AE Groningen (NL).

(72) Inventor; and

(75) Inventor/Applicant (for US only): BUSROPAN, Bryan, Jerrel [NL/NL]; Westlandseweg 33, NL-2624 AB Delft (NL).

(74) Agent: KLEIN, Bart; Koninklijke KPN N.V., P.O. Box 95321, NL-2509 CH The Hague (NL).

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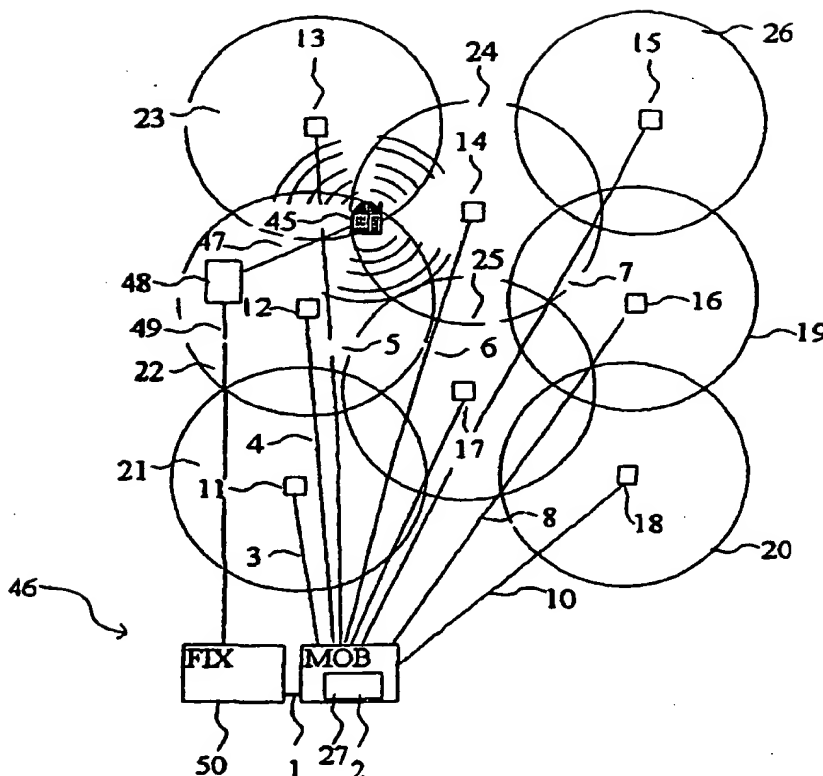
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(54) Title: ACCESS-POINT-DEPENDENT RATE FIXING OF TELECOMMUNICATION LINKS

## (57) Abstract

For the access-point-dependent calculation of telecommunication rates by way of a network, connecting data is generated in response to obtaining and using, by a subscriber or group of subscribers, telecommunication links (3-10). The connection data each time contains data identifying a network-access point (11-18, 48) used by a subscriber. During a specific period of time, there is stored connecting data in a connecting-data file (30). By, as a function of data on access points (11-18, 48) used in said period of time by a subscriber or a group of subscribers, determining to which of the access points (11-18) there are coupled rates specific to the subscriber in question or group of subscribers, access-point-dependent rating is made possible in a simple and automatically self-regulating way. A system for applying the proposed way of rating is described as well.



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**Access-point-dependent rate fixing of telecommunication links.**

The invention relates to a method for access-point-dependent determination of rates for telecommunications, as well as to a telecommunications system arranged for access-point-dependent computation of telecommunication rates.

It is known from practice, depending on the location of a subscriber - or at any rate on an apparatus bearing a subscriber identification - within a cellular network for mobile telephony to invoice several rates to the subscriber.

In order to better compete, e.g., in situations where the subscriber is located close to home or to his job, and therefore may relatively simply dispose of a connection by way of the nonmobile telephone network, against links by way of said nonmobile telephone network, some providers of mobile telephony invoice a reduced rate for conversations in the home zone. For conversations from locations outside said zone, on the contrary, the customary mobile rate is invoiced.

In practice, the zone in which a discount is offered is determined by the cell (the base transceiver) which best covers the location of the home base of the subscriber in question. Said cell constitutes the access point by way of which the subscriber, when making a link, gains access to the telecommunications network.

This way of determining the subscriber's zone, however, leads to several objections.

To start with, the access point must be determined in advance, e.g., by determining, at the home or office location of the subscriber, with which cell there is made a link, which is very laborious. Determination by way of plan views or maps which indicate the range of various cells is unreliable, since the transmission ranges, particularly in urban and hilly surroundings, may have craggy and surprising contours.

Secondly, it is of special importance to the subscriber that it be known whether at specific positions, where he wants to call often, there may be called at the reduced rate. After all, the subscriber will like to ascertain whether, from a location from which there is called frequently, there is not structurally

called at the high rate. Said communication of the rate or the cell used requires additional provisions and complicates the use of the network.

5       Thirdly, in this method of determining the zones in which a different rate is computed, it is laborious that in the event of the home zone or the office zone being changed, it must be determined anew what is the new access point determining the zone in question. In addition, subsequent to the change, rates must then be calculated otherwise in a first part of a period than in  
10       a second part of said period.

      Fourthly, through reconfiguration of the network, e.g., by adding a base station, the zone in which the home locations or office locations of a large number of subscribers are located, may change as well, which, in a considerable area, once again  
15       requires the redetermination of the access points associated with subscribers which determine the zone in question, in order to guarantee that no great number of subscribers at, e.g., the home location or the office location, remains deprived of a reduced rate.

20       Fifthly, under the influence of, e.g., weather conditions, the demand for links, the side of a building where the subscriber is located, and the position in which a telephone set is held, at or already close to the exact home location or office location, there may be made contact with another cell than the one which,  
25       at the initial determination, was determined as a serving cell and therefore as a special access point. As a result, the reduced rate cannot be offered to many subscribers in a reliable manner.

      An object of the invention is to facilitate access-point-  
30       dependently rating telecommunication links in a simpler, more flexible and, at least in the long run, more reliable manner.

      According to the present invention, said object is realised by determining the access point wherein, for a specific subscriber, specific rates are coupled to be carried out as laid  
35       down in claim 1. The invention may also be embodied in a system according to claim 8, which is specifically arranged for carrying out the method according to claim 1.

Determining rates is thus not carried out in advance and statically, but on an empirical basis and, depending on the duration of the period considered, carried out more or less dynamically. As a result, it is not necessary to determine in advance which access point is allotted to a subscriber, while it is guaranteed to the subscriber that a specific rate is coupled to the access point or a number of access points most used by said subscriber. If the use of access points is subject to modification, irrespective of whether such is due to modified circumstances on the part of the subscriber or on the part of the network, there automatically occurs a modification of the access point or the access points to which specific rates are coupled.

A particular advantage of said method is that it can also be used for access-point-dependent determination of rates for telecommunication by way of the nonmobile telephone network when there is called using calling cards and invoicing thus does not occur on the basis of the access point from which a link was established.

A still further advantage is that it is also possible to dynamically couple the access-point-dependence of rates for using a network to the use of access points of a different network. Thus, access points to which special rates for using a mobile network are coupled, may be determined as a function of the use of access points of a nonmobile network, such as the telephone network or a cable-television network by the same subscriber, e.g., using a calling card or a password stored in a computer of the subscriber for gaining access to a service provider, associated with the subscription to the mobile network. In doing so, relations between the use of access points of a network and access points of a different network, e.g., a mobile network and a nonmobile network or a cable-television network, may also be determined by statistical analysis of connecting data.

Particularly advantageous embodiments of the invention are described in the dependent claims.

Further objects, elaborations, effects and details of the invention will be clear from the following description of an exemplary embodiment, reference being made to the drawing. Here:

FIG. 1 shows a schematic representation of a portion of a mobile network and a portion of a nonmobile network,

FIG. 2 shows a table having connecting data, and

FIG. 3 shows a representation of the architecture of a system for implementing the invention.

The telecommunications system, proposed by way of example, a portion of which is shown in FIG. 1, comprises a nonmobile network and a mobile network having a connection 1 to the nonmobile network. Below, the mobile network will first be described in greater detail.

The mobile telecommunications network is composed of an exchange 2, to which connections 3-10 (remaining ones not further shown) to cellular base stations are connected. Said connections may have a branched structure, but this is not relevant for the application to be described here and therefore they are omitted here for clarity's sake. The base stations control mobile telephone sets of subscribers and guest subscribers (e.g., subscribers to networks in other countries) in associated zones 19-26.

The exchange contains a recording unit 27 for generating connecting data relating to telecommunication links obtained and used by subscribers. As shown in FIG. 3, several recording units 27, 27', 27" in several exchanges are provided for in order to be capable of recording connecting data relating to links obtained from several regions. For processing connecting data, there is provided for a central connecting-data-processing unit 28 which is composed of, inter alia, a data processor 29 and a memory 30 for storing as a connecting-data file, during a specific time period, the connecting data generated by the recording units.

As shown in FIG. 2, the connecting data each time contains data which shows a subscriber, a connection category (e.g., local, trunk, international group A, international group B etc.), the duration of a link, the cell used as an access point, and the point in time (including the date) of obtaining, or interrupting, the link, and constitute a connecting-data table.

The system further comprises a payment unit 31 for invoicing links in accordance with connecting data stored in memory 30 of the central connecting-data-processing unit 28. For

this purpose, a processor 32 of the payment unit 31 is connected to the processor 29 of the central connecting-data-processing unit 28, and the payment unit is provided with a memory 33 for storing payment data to be processed.

5           The processor 32 of the payment unit 31 is arranged for determining, for each subscriber or group of subscribers, as a function of access points used in a period of time, to which of the access points 11-18 for the subscriber in question specific rates are coupled, and for subsequently determining amounts to be  
10           invoiced in accordance with the connecting data.

          For settling the specific amounts and notifying the subscribers of the specific amounts, the processor 32 of the payment unit 31 is connected, by way of a mobile link 34, to a settlement system, such as a payment system of a bank for  
15           processing automatic payments by subscribers who issued a power of attorney to this effect.

          Furthermore, the processor 32 of the payment unit 31 is connected, by way of a link 36, to an operating system 37 of a printer and couverture system 38 for printing and finishing  
20           invoices, provided with a printer 39, a buffer station 40, a folding station 41, appendix-feed stations 42, 43, and a couverture station 44.

          FIG. 1 shows a home location of a subscriber A by way of example. Assuming the wish to offer subscriber A a more  
25           favourable rate for mobile telephony, if from the home or from the neighbourhood of the home (e.g., from the garage or from the garden or possibly from the suburb), the problem arises that it must be determined from where subscriber A is calling.

          This may be effected by repeatedly recording by way of  
30           which access point 11-18 subscriber A obtains a link. To this end, however, it would first have to be determined which access point serves the home location of subscriber A. In this connection, the problem arises that the home location of subscriber A is situated in such a manner that, depending on the  
35           side of the house where subscriber A is located, three of the base stations are capable of communicating with the telephone set of subscriber A. In this connection, weather conditions and other variable conditions, such as the demand for links by way of

various access points and the position in which the telephone set is held, may also play a rôle. This is why, particularly in situations such as those of the home location 45 of subscriber A, it is not very well possible to reliably determine which of the access points 11-18 is associated with the location of subscriber A. Furthermore, it is laborious for a register to be updated which indicates, for each subscriber, the access points by way of which the subscribers in question are permitted to call at a reduced rate.

In the system proposed, said problems are solved by the fact that the determination by way of which the access points 11-18 may be called at a reduced rate, occurs as a function of access points used by subscriber A in a specific period of time.

This may be carried out, inter alia, by identifying which of the access points 11-18 is most frequently used during a specific period of time. In order, in situations such as those of subscriber A, to guarantee that from the home location 45 there may always be called at the economic rate, however, it is preferable to determine which group of three (or, depending on the structure of the network, two, four or over) neighbours of the access points 11-18 is most frequently used by subscriber A, and coupling the reduced rate to said group of access points. In order not to provide subscribers located in the centre of a zone with an unnecessarily large advantageous zone, there may also be provided for a situation in which, apart from the access point most frequently used, no reduced rate is coupled to access points if the use thereof over a specific period of time does not determine at least 5%, 10%, 20% or another suitably chosen percentage of the use of the most frequently used access point. The rules for selecting the access point to which reduced rates are coupled can also be made dependent on the access points, e.g., to take into account the fine-meshedness and the degree of overlap between care zones 19-26 in a specific area.

It should be noted, however, that the period of time over which the intensities of use of access points per subscriber are considered, need not coincide with the period of time to which a payment relates. Depending on the desired balance between



reaction speed and stability, there may be chosen a larger or smaller progressing time window to be considered.

The proposed system of access-point-dependent debiting of several rates is particularly attractive where it concerns debiting rates for the use of a mobile network, the access points being constituted by transmitters and receivers of said network. In such networks, after all, users are especially mobile in so far as the use of several access points is concerned, and determining an access point associated with the home location is more difficult than in the event of a nonmobile network.

The proposed method of determining advantageous access points, however, may also be used particularly advantageously in combination with other networks, such as nonmobile telephone networks or communication by way of cable-television networks, subscribers or members of a group of subscribers repeatedly, at any rate before, at or after obtaining a link, identifying themselves to the network by way of an access-point-independent identification code. In this connection there may be thought of, e.g., calling using calling cards, or logging in using a data-processor system in a server offering telecommunications facilities.

A further example of the proposed method of determining access points to which a reduced rate must be coupled is, that the data relating to access points used by subscribers may also be used for determining other communication to be focused on said subscriber. If, e.g., in any of the appendix-feed stations 42, there is placed information on car holidays, it is advantageous to add appendices from said station only to invoices for subscribers who at least have a specific frequency of use or a relative frequency of use on access points along major motorways.

The system proposed by way of example is further provided with a link to another network 46, with the recording unit 27, the central connecting-data-processing unit 28 and the link 1 being arranged for receiving and recording connecting data relating to the use of access points of the other network 46. At the home location, after all, there is also located a link to a connection 47 of the nonmobile network 46, which connection 47 is connected, by way of a node 48 serving as an access point and a

trunk line 49, to an exchange 50. It is also possible, meanwhile, to use the individual connections of subscribers as an access point.

5 According to this example, here the determination to which of the access points 11-18 of the mobile network advantageous rates are coupled for a specific subscriber or group of subscribers, is at least partly carried out in response to data relating to the use of individual access points 48 of the other, nonmobile telephone network by said subscriber or said group of subscribers. For this purpose, a number of access points 11-14 10 of the mobile network are coupled to the access point 48 of the nonmobile network. If, for a specific subscriber, the access point 48 of the nonmobile network is the access point most frequently used, the reduced rate for mobile links is coupled, as an default setting, to the access points 11-13, 15 of the mobile 15 network. The determination of the access points of the mobile network to which reduced rates are assigned, may subsequently be refined and/or adjusted on the basis of frequencies of use of the access points 11-18.

20 In order, in situations in which a subscriber A does not or very infrequently use the mobile network from the home location, not to proceed with the offer of a reduced rate from another location, there is also preferably coupled, to the access point of subscriber A to the nonmobile network, a more ample maximum 25 collection of access points for mobile communication, which are eligible for the reduced-rate setting. When determining the access points to which the reduced rate for subscriber A is coupled, the other access points for mobile communication are simply left out of consideration.

30 In this manner, the reduced rate may be offered with greater reliability only in the event of communication from the home location.

When, as in this example, one of the networks is a nonmobile network and the other one of the networks is a mobile 35 network, communication by way of the mobile network may be offered, in an exceptionally precise and reliable way, at the location where s/he has the easiest access to the nonmobile network.

In order to also facilitate the determination of the access points 11-18 of the mobile network, which must be associated with a specific access point of the other, nonmobile network 46 in a reliable and computerised, self-regulating way, the determination of the access points 11-18 of the mobile network to which, for a subscriber or group of subscribers, special rates are coupled in response to data on the use of individual access points 48 of the nonmobile network 46, is carried out on the basis of statistical relationships between the use of individual access points 11-18 of the mobile network and individual access points 48 of the nonmobile network, by subscribers to both networks in general, respectively. This way, there is automatically obtained a pattern of relationships between both networks, which adjusts itself if changes occur in any of the networks or in the surroundings of the users.

The invention is also applicable in situations in which the one network is a wide-area network applicable on the basis of identification of a subscriber, and in which the other network is an upstream, more fine-meshed network. In said situation, e.g., when obtaining a link by way of the wide-area network by way of an access point of the other network associated with a home location, there may be offered a more favourable rate than in situations in which the link is obtained by way of another access point. For this purpose, there may be used, e.g., a conventional number-recognition technique to determine the access point used by a subscriber.

It will be understood by those skilled in the art that, within the framework of the invention, there are still possible many different embodiments than the one proposed by way of example. Thus, instead of the home location, there may also be chosen the office location as a starting point for selecting access points to which adjusted rates must be coupled.

CLAIMS

1. Method for access-point-dependent calculation of telecommunication rates by way of a specific network, comprising:
  - 5 - generating connecting data in response to obtaining and using, by a subscriber or group of subscribers, telecommunication links (3-10), which connecting data each time contains data which identifies a network-access point (11-18, 48) used by a subscriber;
  - 10 - during a specific period of time storing, in a connecting-data file (30), said connecting data, and
  - as a function of data on access points (11-18, 48) used by a subscriber or group of subscribers in said period of time, determining the access points (11-18) to which rates  
15 determined for said subscriber or group of subscribers, are coupled.
2. Method according to claim 1, said subscribers or members of said group of subscribers each time identifying themselves at  
20 least before, during or after obtaining a link, to the network by way of an access-point-independent identification code.
3. Method according to claim 1 or 2, said network being a mobile network whose access points (11-18) communicate wirelessly  
25 with connected subscribers in zones (19-26) served by the access points (11-18, 48) in question.
4. Method according to any of the preceding claims, the determination to which of the access points (11-18) of said  
30 network specific rates are coupled for a specific subscriber or group of subscribers, taking place in response to data on the use of individual network access points (11-18, 48) by said subscriber or said group of subscribers.
- 35 5. Method according to any of the preceding claims, the determination to which of the access points (11-18) of said network rates determined for a specific subscriber or group of subscribers are coupled, at least partly taking place in response

to data on the use of individual access points (48) of a different network (56) by said subscriber or group of subscribers.

5        6.    Method according to claim 5, the determination to which of said access points (11-18) of said network there are coupled special rates for a subscriber or group of subscribers in response to data on the use of individual network access points (48) of a different network (46), taking place on the basis of  
10       statistical relationships between the use of individual access points (11-18) of the one network and individual access points (48) of the other network (46) by respective subscribers to both networks in general.

15       7.    Method according to any of the preceding claims, in which, during the determination, as a function of data on access points (11-18, 48) used in said period of time, to which of the access points (11-18) of said network, specific rates for said  
20       subscriber or group of subscribers are coupled, taking place by determining the greatest aggregated use of two or more adjacent ones of said access points (11-18) by said subscriber or group of subscribers.

25       8.    Telecommunications system arranged for access-point-dependent calculation of telecommunication rates, comprising:  
-       a telecommunications network;  
-       a recording structure (27, 27', 27", 29) for generating connecting data in response to obtaining or using, by a subscriber or group of subscribers, telecommunication links  
30       (3-10), which connecting data each time contains data identifying a network-access point (11-18, 48) used by a subscriber;  
-       a memory structure (30) for, during a specific period of time, storing said connecting data as a connecting-data  
35       file, and  
-       a processor structure (32) arranged for determining, as a function of network-access points (11-18, 48), to which of

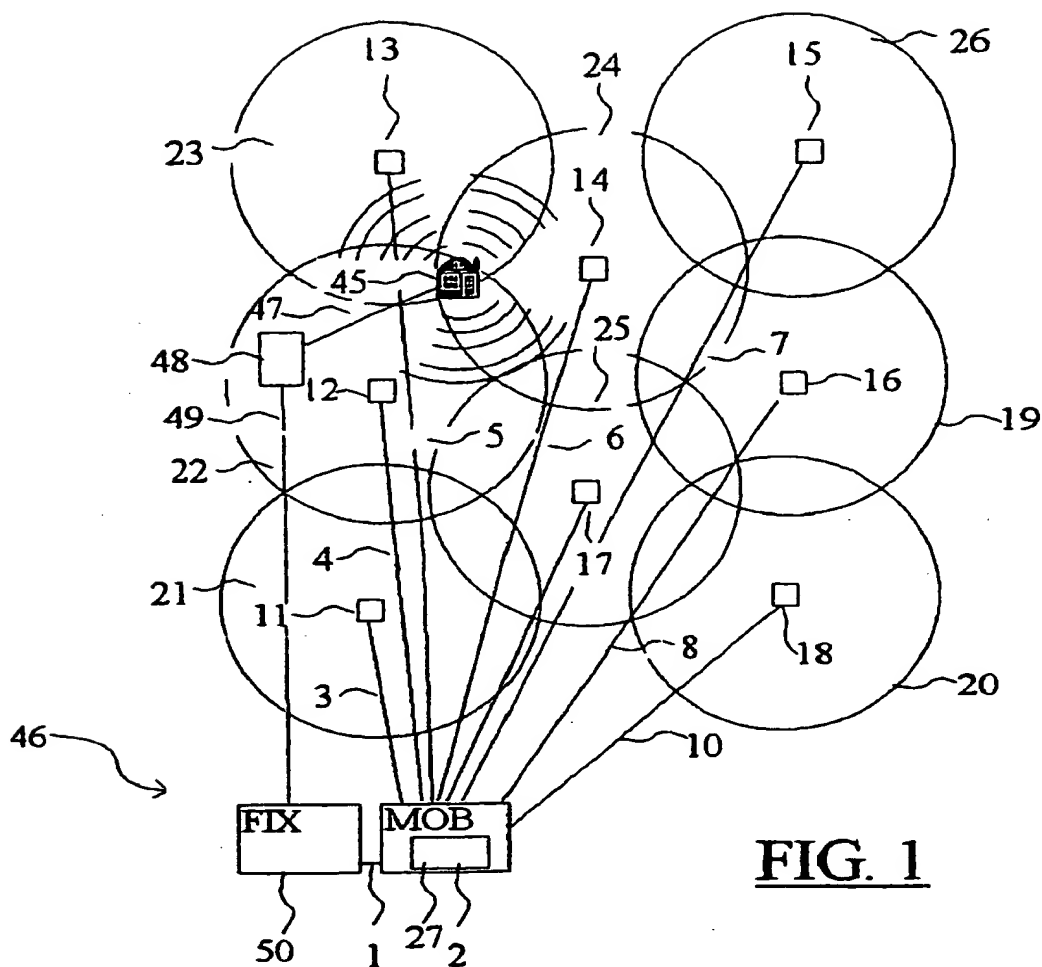
the access points (11-18) for said subscriber specific rates were coupled.

5        9.        System according to claim 8, said network being a mobile network and the access points (11-18) of said network being constituted by transmitters and receivers of said network.

10       10.       System according to claim 8 or 9, further comprising at least a connection for connecting to a different network (46), said recording structure (27, 27', 27'', 29) and said connection being arranged for receiving and recording connecting data on the use of access points (48) of said different network (46).

15       11.       System according to claim 10, further comprising said different network (46), one of said networks being a nonmobile network and the other of said networks (46) being a mobile network.

20       12.       System according to claim 10, said network being a wide-area network and said at least one connection being connected to a more fine-meshed network connected thereto.

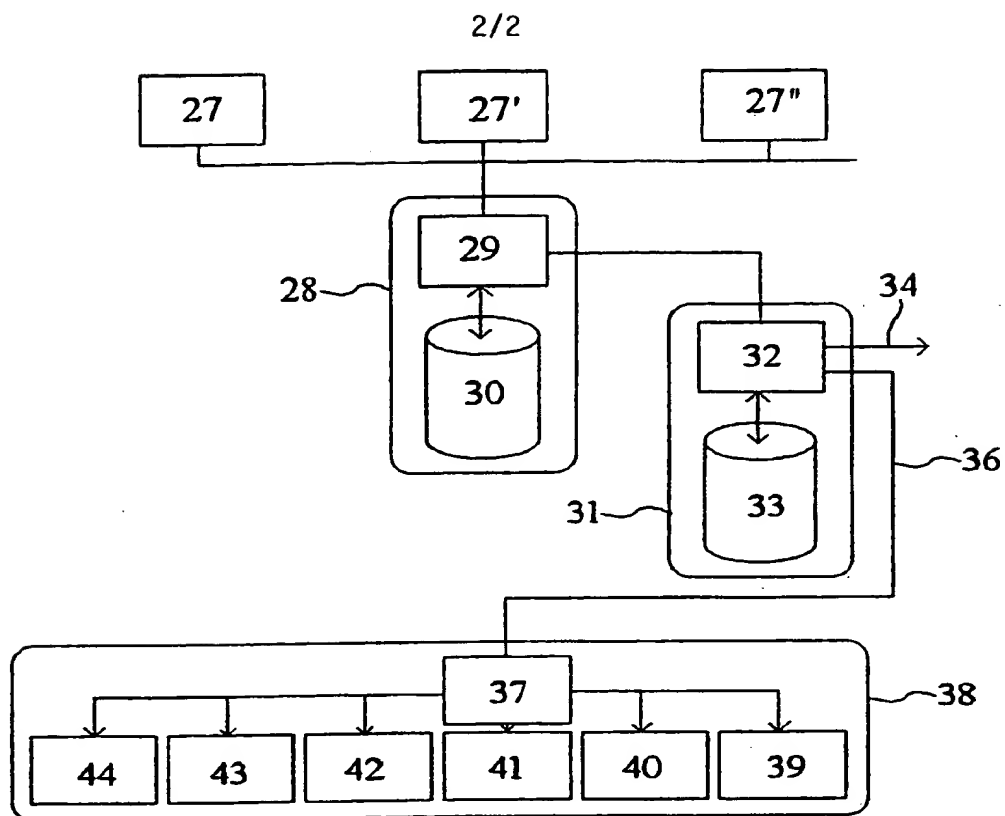


Subscr.	Conn. Cat.	Durat.	Cell	Time

FIG. 2

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**FIG. 3**

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/00490

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 H04M15/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H04M H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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A	WO 97 37503 A (BRITISH TELECOMM ;DOYLE KATHERINE EMMA (GB); MCKEE PAUL FRANCIS (G) 9 October 1997 (1997-10-09) abstract page 2, line 27 -page 5, line 12 page 6, line 19 -page 7, line 3 claims 1-9	1-3,6,8,9
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Information on patent family members

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# PATENT COOPERATION TREATY

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### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

To:

KLEIN, B.  
KONINKLIJKE KPN N.V.  
P.O. Box 95321  
NL-2509 CH Den Haag  
PAYS-BAS

Date of mailing (day/month/year)	29.05.2001
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Applicant's or agent's file reference 402537WO	<b>IMPORTANT NOTIFICATION</b>
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International application No. PCT/EP00/00490	International filing date (day/month/year) 24/01/2000	Priority date (day/month/year) 22/02/1999
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Applicant KONINKLIJKE KPN N.V. et al.
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1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/	Authorized officer
---------------------------------------	--------------------

 <p>European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465</p>	<p>Poquet Oliver, R</p> <p>Tel. +49 89 2399-2911</p>
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PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 04 October 2000 (04.10.00)	
International application No. PCT/EP00/00490	Applicant's or agent's file reference 402537WO
International filing date (day/month/year) 24 January 2000 (24.01.00)	Priority date (day/month/year) 22 February 1999 (22.02.99)
Applicant BUSROPAN, Bryan, Jerrel	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
01 August 2000 (01.08.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Juan Cruz
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

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## CLAIMS

1. Method for access-point-dependent calculation of telecommunication rates by way of a specific network,  
5 comprising:  
- generating connecting data in response to obtaining and using, by a subscriber or group of subscribers, telecommunication links (3-10), which connecting data each time contains data which identifies a network-access point  
10 (11-18, 48) used by a subscriber;  
- during a specific period of time storing, in a connecting-data file (30), said connecting data, and  
- as a function of intensities of use of access points (11-18, 48) per subscriber or group of subscribers in said  
15 period of time, processed from said connecting-data file, determining to which of the access points (11-18) certain rates are coupled for said subscriber or group of subscribers.
- 20 2. Method according to claim 1, said subscribers or members of said group of subscribers each time identifying themselves at least before, during or after obtaining a link, to the network by way of an access-point-independent identification code.
- 25 3. Method according to claim 1 or 2, said network being a mobile network whose access points (11-18) communicate wirelessly with connected subscribers in zones (19-26) served by the access points (11-18, 48) in question.
- 30 4. Method according to any of the preceding claims, the determination to which of the access points (11-18) of said network specific rates are coupled for a specific subscriber or group of subscribers, taking place in  
35 response to data on the use of individual network access

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points (11-18, 48) by said subscriber or said group of subscribers.

5. Method according to any of the preceding claims, the  
5 determination to which of the access points (11-18) of said network rates determined for a specific subscriber or group of subscribers are coupled, at least partly taking place in response to data on the use of individual access points  
10 (48) of a different network (56) by said subscriber or group of subscribers.

6. Method according to claim 5, the determination to which  
of said access points (11-18) of said network there are  
coupled special rates for a subscriber or group of  
15 subscribers in response to data on the use of individual network access points (48) of a different network (46), taking place on the basis of statistical relationships between the use of individual access points (11-18) of the one network and individual access points (48) of the other  
20 network (46) by respective subscribers to both networks in general.

7. Method according to any of the preceding claims, in  
which, during the determination, as a function of data on  
25 access points (11-18, 48) used in said period of time, to which of the access points (11-18) of said network, specific rates for said subscriber or group of subscribers are coupled, taking place by determining the greatest aggregated use of two or more adjacent ones of said access  
30 points (11-18) by said subscriber or group of subscribers.

8. Telecommunications system arranged for  
access-point-dependent calculation of telecommunication  
rates, comprising:  
35 - a telecommunications network;

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therefore as a special access point. As a result, the reduced rate cannot be offered to many subscribers in a reliable manner.

From WO97113387 a state-of-the-art method and system for  
5 identification of home area (H) are known. The home area is defined by the coverage area for one or more base stations in the mobile telecommunication system. At registration of home area, a customer (K) calls the mobile telephone system via a special call number. The mobile telephone system  
10 identifies the call number as well as the customer in question. After that, an equipment for recording of home area (I) is initiated. The customer after that travels around in the intended home area at which the telecommunication system registers which base  
15 station/stations (B) are activated during said registration phase. The registration phase can relate to one or more calls to the mobile telephone system. Information regarding which base stations that are activated in connection with registration of the home area (H) is transmitted from the  
20 mobile telephone system to the equipment for recording of home area. The information is after that registered in a database (D). The customer after that may have access to certain services within the home area or a lower charge than in the rest of the mobile telephone network.  
25 An object of the invention is to facilitate access-point-dependently rating telecommunication links in a simpler, more flexible and, at least in the long run, more reliable manner than the state-of-the-art methods and systems do.  
30 According to the present invention, said object is realised by determining the access point wherein, for a specific subscriber, specific rates are coupled to be carried out as laid down in claim 1. The invention may also be embodied in a system according to claim 8, which is  
35 specifically arranged for carrying out the method according

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- a recording structure (27, 27', 27", 29) for generating connecting data in response to obtaining or using, by a subscriber or group of subscribers, telecommunication links (3-10), which connecting data each time contains data identifying a network-access point (11-18, 48) used by a subscriber;
  - a memory structure (30) for, during a specific period of time, storing said connecting data as a connecting-data file, and
  - a processor structure (29,32) arranged for determining, as a function of intensities of use of network-access points (11-18, 48) per subscriber or group of subscribers in said period of time, to which of the access points (11-18) certain rates are coupled for said subscriber or group of subscribers.
9. System according to claim 8, said network being a mobile network and the access points (11-18) of said network being constituted by transmitters and receivers of said network.
10. System according to claim 8 or 9, further comprising at least a connection for connecting to a different network (46), said recording structure (27, 27', 27", 29) and said connection being arranged for receiving and recording connecting data on the use of access points (48) of said different network (46).
11. System according to claim 10, one of said networks being a non-mobile network (46) and the other of said networks being a mobile network.
12. System according to claim 10, one of said networks being a wide-area network and the other of said networks being a fine-meshed network.

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## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>402537W0</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 00/ 00490</b>	International filing date (day/month/year) <b>24/01/2000</b>	(Earliest) Priority Date (day/month/year) <b>22/02/1999</b>
Applicant <b>KONINKLIJKE KPN N.V. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

## 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

## 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

## 6. The figure of the drawings to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1  
☐ None of the figures.

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# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 00/00490

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04M15/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04M H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	W0 97 13387 A (PREVEUS EVA ;LARSSON LENA (SE); LIDBRINK STEFAN (SE); TELIA AB (SE) 10 April 1997 (1997-04-10) page 6, line 16 -page 9, line 24	1-4,8,9
A	W0 97 37503 A (BRITISH TELECOMM ;DOYLE KATHERINE EMMA (GB); MCKEE PAUL FRANCIS (G) 9 October 1997 (1997-10-09) abstract page 2, line 27 -page 5, line 12 page 6, line 19 -page 7, line 3 claims 1-9	1-3,6,8,9
A	W0 99 05875 A (FREYER BERND ;SIEMENS AG (DE)) 4 February 1999 (1999-02-04) page 7, line 6 - line 29 claims 1,19-29	1-3,8,9
	-/-	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 March 2000

Date of mailing of the international search report

29/03/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Neves Appelt, D

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# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/EP 00/00490

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 96 39000 A (ERICSSON TELEFON AB L M)                      5 December 1996 (1996-12-05)                      abstract</p>	1-3, 8, 9

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/00490

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
W0 9713387	A	10-04-1997	SE 503949 C EP 0796545 A SE 9503521 A	07-10-1996 24-09-1997 07-10-1996
W0 9737503	A	09-10-1997	AU 713598 B AU 2300397 A CA 2248105 A CN 1214843 A EP 0890273 A NO 984505 A	09-12-1999 22-10-1997 09-10-1997 21-04-1999 13-01-1999 27-11-1998
W0 9905875	A	04-02-1999	DE 19731461 C DE 19731463 C	03-12-1998 03-12-1998
W0 9639000	A	05-12-1996	US 5568153 A AU 5915496 A JP 11506275 T	22-10-1996 18-12-1996 02-06-1999

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## PATENT COOPERATION TREATY

PCT

REC'D 31 MAY 2001

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



14

Applicant's or agent's file reference 402537WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP00/00490	International filing date (day/month/year) 24/01/2000	Priority date (day/month/year) 22/02/1999
International Patent Classification (IPC) or national classification and IPC H04M15/00		
Applicant KONINKLIJKE KPN N.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand  01/08/2000	Date of completion of this report  29.05.2001
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Chêne, X  Telephone No. +49 89 2399 8266  

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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/00490

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1,2,4-9	as originally filed	
3	with telefax of	12/02/2001

### Claims, No.:

1-12	with telefax of	12/02/2001
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### Drawings, sheets:

1/2,2/2	as originally filed
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2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP00/00490

- ☐ the description,      pages:  
☐ the claims,      Nos.:  
☐ the drawings,      sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Yes:	Claims	1-12
	No:	Claims	
Inventive step (IS)	Yes:	Claims	5,6,10
	No:	Claims	1-4,7-9,11-12
Industrial applicability (IA)	Yes:	Claims	1-12
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

## VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:  
**see separate sheet**

## VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:  
**see separate sheet**

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**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents cited in the International Search Report:  
**D1: WO 97 13387 A (PREVEUS EVA ; LARSSON LENA (SE) ; LIDBRINK STEFAN (SE) ; TELIA AB (SE)), 10 April 1997 (1997-04-10) ;**  
**D2: WO 97 37503 A (BRITISH TELECOMM ; DOYLE KATHERINE EMMA (GB); MCKEE PAUL FRANCIS (G) 9 October 1997 (1997-10-09) ;**  
**D3: WO 99 05875 A (FREYER BERND ; SIEMENS AG (DE)) 4 February 1999 ;**  
**D4: WO 96 39000 A (ERICSSON TELEFON AB L M) 5 December 1996.**
2. The subject-matter of **claim 1 does not involve an inventive step** in the sense of Article 33(3) PCT for the following reasons:

Document D1, according to the main features of claim 1, discloses a method for access-point-dependent calculation of telecommunication rates by way of a specific network (page 6, lines 18-20), comprising:

- generating connecting data in response to obtaining and using, by a subscriber or group of subscribers, telecommunication links, which connecting data each time contains data which identifies a network-access point (11-18,48) used by a subscriber (page 6, line 37 - page 7, line 3);
- during a specific period of time storing, in a connecting-data file, said connecting data (page 7, lines 1-2: "*during the recording phase*"), and
- [according to the access points used by the] subscriber or group of subscribers in said period of time, processed from said connecting-data file, determining to which of the access points certain rates are coupled for said subscriber or group of subscribers (page 7, lines 4-12).

The subject-matter of claim 1 therefore differs from the method disclosed in document D1 in that the determination of the rates depends on the intensities of use of access points during a specific period of time.

The problem to be solved by the present invention may therefore be regarded as how to determine the access points defining a certain rate area.

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For a person skilled in the art, it is obvious to consider, like in D1, the one or more access points (page 7, lines ) used by the user during a recording phase of the home area. In document D1, if an access point is used during the recording phase, the access point is considered to be in the home area (page 6, line 39 - page 7, line 6). It is however obvious for a person skilled in the art to consider the most used access points as these defining the home area, which corresponds to use a function of use of access points in said period of time, i.e to the differentiating step of claim 1.

Therefore, starting from the method disclosed in document D1, a person skilled in the art will obviously arrive, using common general knowledge, to the method of claim 1 without involving an inventive activity.

However, the Examiner is of the opinion that the lack of inventive activity comes mainly from a too broad wording of claim 1, which does not clearly put forward the differences with the known prior art.

3. The subject-matter of **claim 8 does not involve an inventive step** in the sense of Article 33(3) PCT for the following reasons:

The subject-matter of claim 8 concerns an system implementing the method of claim 1 using well-known means to execute the steps of the method of claim 1. Such means do not add any inventive merit to the subject-matter of claim 1, which is not considered to involve an inventive activity. Consequently, claim 8 does not involve any inventive activity.

4. **The subject-matter of dependent claims 5, 6 and 10 appears to add inventive matter to the claims upon which they are dependent** for the following reasons:

The use of individual access points data from a different network is not disclosed in the documents cited in the international search report and does not appear to be obvious for a person skilled in the art.

5. The subject-matter of **dependent claims 2-4, 7, 9, 11 and 12** is either derivable from the above cited documents or concerns simple embodiments without

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inventive merit in themselves.

Therefore, these claims **do not add inventive matter** to the claims upon which they are dependent. In particular:

- i) Claim 2: the use of an identification code is already known from D1 (page 6, lines 31-37) ;
- ii) Claims 3, 9, 11 and 12: the context of a mobile network with wireless communication is already known from document D1 (see title) ; the specification of the type of network is a simple design matter ;
- iii) Claim 7: such a determination is obvious for a person skilled in the art.

**Re Item VII**

**Certain defects in the international application**

- 1. The independent claim are not in the two-part form in accordance with Rule 6.3(b) PCT, with those features known in combination from the prior art (D1) being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 2. The annexed page 3 is obviously not a replacement page for the page 3 as initially filed. It appears that the lines 4 to 29 of the annexed page 3 should replace lines 29 to 31 of the page 2 as originally filed.

**Re Item VIII**

**Certain observations on the international application**

Claim 4 is not clearly defined (Article 6 PCT) for the following reason:

The "additional" feature "*in response to data on the use of individual network access points ...*" does not define the subject-matter of claim 1 more precisely ; this definition is broader than this used in claim 1 (lines 13-15), which should not happen in a dependent claim (Rule 6.4(b) PCT).

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# PCT

## REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only	
International Application No.	
International Filing Date	
Name of receiving Office and "PCT International Application"	
Applicant's or agent's file reference (if desired) (12 characters maximum)	402537W0

Box No. I	TITLE OF INVENTION	
	Access-point-dependent rate fixing of telecommunication links.	
Box No. II	APPLICANT	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)		<input type="checkbox"/> This person is also inventor.
KONINKLIJKE KPN N.V. Stationsplein 7 9726 AE GRONINGEN The Netherlands		Telephone No. +31 70 3323678 Facsimile No. +31 70 3323840 Teleprinter No.
State (that is, country) of nationality: NL		State (that is, country) of residence: NL
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input checked="" type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box		
Box No. III	FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)		This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)
BUSROPAN Bryan Jerrel Westlandseweg 33 2624 AB DELFT The Netherlands		
State (that is, country) of nationality: NL		State (that is, country) of residence: NL
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box		
<input type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.		
Box No. IV	AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: <input type="checkbox"/> agent <input type="checkbox"/> common representative		
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		Telephone No. +31 70 3323678 Facsimile No. +31 70 3323840 Teleprinter No.
KLEIN, Bart KONINKLIJKE KPN N.V. P.O. Box 95321 2509 CH THE HAGUE The Netherlands		
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.		

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**Box No.V DESIGNATION STATES**

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

**Regional Patent**

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

**National Patent** (if other kind of protection or treatment desired, specify on dotted line):

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> <b>AE</b> United Arab Emirates                  | <input checked="" type="checkbox"/> <b>LR</b> Liberia                                   |
| <input checked="" type="checkbox"/> <b>AL</b> Albania                               | <input checked="" type="checkbox"/> <b>LS</b> Lesotho                                   |
| <input checked="" type="checkbox"/> <b>AM</b> Armenia                               | <input checked="" type="checkbox"/> <b>LT</b> Lithuania                                 |
| <input checked="" type="checkbox"/> <b>AT</b> Austria                               | <input checked="" type="checkbox"/> <b>LU</b> Luxembourg                                |
| <input checked="" type="checkbox"/> <b>AU</b> Australia                             | <input checked="" type="checkbox"/> <b>LV</b> Latvia                                    |
| <input checked="" type="checkbox"/> <b>AZ</b> Azerbaijan                            | <input checked="" type="checkbox"/> <b>MA</b> Morocco                                   |
| <input checked="" type="checkbox"/> <b>BA</b> Bosnia and Herzegovina                | <input checked="" type="checkbox"/> <b>MD</b> Republic of Moldova                       |
| <input checked="" type="checkbox"/> <b>BB</b> Barbados                              | <input checked="" type="checkbox"/> <b>MG</b> Madagascar                                |
| <input checked="" type="checkbox"/> <b>BG</b> Bulgaria                              | <input checked="" type="checkbox"/> <b>MK</b> The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> <b>BR</b> Brazil                                | <input checked="" type="checkbox"/> <b>MN</b> Mongolia                                  |
| <input checked="" type="checkbox"/> <b>BY</b> Belarus                               | <input checked="" type="checkbox"/> <b>MW</b> Malawi                                    |
| <input checked="" type="checkbox"/> <b>CA</b> Canada                                | <input checked="" type="checkbox"/> <b>MX</b> Mexico                                    |
| <input checked="" type="checkbox"/> <b>CH and LI</b> Switzerland and Liechtenstein  | <input checked="" type="checkbox"/> <b>NO</b> Norway                                    |
| <input checked="" type="checkbox"/> <b>CN</b> China                                 | <input checked="" type="checkbox"/> <b>NZ</b> New Zealand                               |
| <input checked="" type="checkbox"/> <b>CR</b> Costa Rica                            | <input checked="" type="checkbox"/> <b>PL</b> Poland                                    |
| <input checked="" type="checkbox"/> <b>CU</b> Cuba                                  | <input checked="" type="checkbox"/> <b>PT</b> Portugal                                  |
| <input checked="" type="checkbox"/> <b>CZ</b> Czech Republic                        | <input checked="" type="checkbox"/> <b>RO</b> Romania                                   |
| <input checked="" type="checkbox"/> <b>DE</b> Germany                               | <input checked="" type="checkbox"/> <b>RU</b> Russian Federation                        |
| <input checked="" type="checkbox"/> <b>DK</b> Denmark                               | <input checked="" type="checkbox"/> <b>SD</b> Sudan                                     |
| <input checked="" type="checkbox"/> <b>DM</b> Dominica                              | <input checked="" type="checkbox"/> <b>SE</b> Sweden                                    |
| <input checked="" type="checkbox"/> <b>EE</b> Estonia                               | <input checked="" type="checkbox"/> <b>SG</b> Singapore                                 |
| <input checked="" type="checkbox"/> <b>ES</b> Spain                                 | <input checked="" type="checkbox"/> <b>SI</b> Slovenia                                  |
| <input checked="" type="checkbox"/> <b>FI</b> Finland                               | <input checked="" type="checkbox"/> <b>SK</b> Slovakia                                  |
| <input checked="" type="checkbox"/> <b>GB</b> United Kingdom                        | <input checked="" type="checkbox"/> <b>SL</b> Sierra Leone                              |
| <input checked="" type="checkbox"/> <b>GD</b> Grenada                               | <input checked="" type="checkbox"/> <b>TJ</b> Tajikistan                                |
| <input checked="" type="checkbox"/> <b>GE</b> Georgia                               | <input checked="" type="checkbox"/> <b>TM</b> Turkmenistan                              |
| <input checked="" type="checkbox"/> <b>GH</b> Ghana                                 | <input checked="" type="checkbox"/> <b>TR</b> Turkey                                    |
| <input checked="" type="checkbox"/> <b>GM</b> Gambia                                | <input checked="" type="checkbox"/> <b>TT</b> Trinidad and Tobago                       |
| <input checked="" type="checkbox"/> <b>HR</b> Croatia                               | <input checked="" type="checkbox"/> <b>TZ</b> United Republic of Tanzania               |
| <input checked="" type="checkbox"/> <b>HU</b> Hungary                               | <input checked="" type="checkbox"/> <b>UA</b> Ukraine                                   |
| <input checked="" type="checkbox"/> <b>ID</b> Indonesia                             | <input checked="" type="checkbox"/> <b>UG</b> Uganda                                    |
| <input checked="" type="checkbox"/> <b>IL</b> Israel                                | <input checked="" type="checkbox"/> <b>US</b> United States of America                  |
| <input checked="" type="checkbox"/> <b>IN</b> India                                 | <input checked="" type="checkbox"/> <b>UZ</b> Uzbekistan                                |
| <input checked="" type="checkbox"/> <b>IS</b> Iceland                               | <input checked="" type="checkbox"/> <b>VN</b> Viet Nam                                  |
| <input checked="" type="checkbox"/> <b>JP</b> Japan                                 | <input checked="" type="checkbox"/> <b>YU</b> Yugoslavia                                |
| <input checked="" type="checkbox"/> <b>KE</b> Kenya                                 | <input checked="" type="checkbox"/> <b>ZA</b> South Africa                              |
| <input checked="" type="checkbox"/> <b>KG</b> Kyrgyzstan                            | <input checked="" type="checkbox"/> <b>ZW</b> Zimbabwe                                  |
| <input checked="" type="checkbox"/> <b>KP</b> Democratic People's Republic of Korea |   |
| <input checked="" type="checkbox"/> <b>KR</b> Republic of Korea                     |   |
| <input checked="" type="checkbox"/> <b>KZ</b> Kazakhstan                            |   |
| <input checked="" type="checkbox"/> <b>LC</b> Saint Lucia                           |   |
| <input checked="" type="checkbox"/> <b>LK</b> Sri Lanka                             |   |

Check-boxes reserved for designating States which have become party to the PCT after issuance of this sheet:

☐   
 ☐

**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

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**Supplemental Box***If the Supplemental Box is not used, this sheet should not be included in the request.*

1. If, in any of the Boxes, the space is insufficient to furnish all the information: in such case, write "Continuation of Box No. ..." (indicate the number of the Box) and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in particular:
- (i) if more than two persons are involved as applicants and/or inventors and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;
  - (ii) if, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked: in such case, write "Continuation of Box No. II" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;
  - (iii) if, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;
  - (iv) if, in addition to the agent(s) indicated in Box No. IV, there are further agents: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;
  - (v) if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "continuation" or "continuation-in-part": in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;
  - (vi) if, in Box No. VI, there are more than three earlier applications whose priority is claimed: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI;
  - (vii) if, in Box No. VI, the earlier application is an ARIPO application: in such case, write "Continuation of Box No. VI", specify the number of the item corresponding to that earlier application and indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed.
2. If, with regard to the precautionary designation statement contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.
3. If the applicant claims, in respect of any designated Office, the benefits of provisions of the national law concerning non-prejudicial disclosures or exceptions to lack of novelty: in such case, write "Statement concerning non-prejudicial disclosures or exceptions to lack of novelty" and furnish that statement below.



BUSROPAN  
Bryan Jerrel

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<b>Box No. VI PRIORITY CLAIMS</b>				
<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application: regional Office	international application: receiving Office
item (1) (22/02/99) 22 FEB 1999	1011358	NL		
item (2)				
item (3)				

☐ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s):

\* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

**Box No. VII INTERNATIONAL SEARCHING AUTHORITY**

**Choice of International Searching Authority (ISA)**  
(if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA/ EP

**Request to use results of earlier search; reference to that search** (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)

Number

Country (or regional Office)

2 NOV 1999

SN 32664 NL

NL

**Box No. VIII CHECK LIST: LANGUAGE OF FILING**

This international application contains the following number of sheets:

request : 4  
description (excluding sequence listing part) : 9  
claims : 3  
abstract : 1  
drawings : 2  
sequence listing part of description :

Total number of sheets : 19

This international application is accompanied by the item(s) marked below:

1. ☒ fee calculation sheet
2. ☒ separate signed power of attorney
3. ☒ copy of general power of attorney; reference number, if any:
4. ☐ statement explaining lack of signature
5. ☒ priority document(s) identified in Box No. VI as item(s):
6. ☐ translation of international application into (language):
7. ☐ separate indications concerning deposited microorganism or other biological material
8. ☐ nucleotide and/or amino acid sequence listing in computer readable form
9. ☒ other (specify): search report

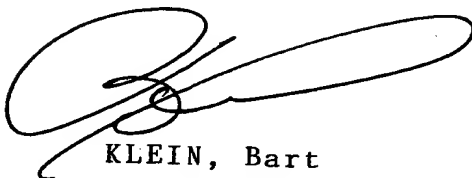
Figure of the drawings which should accompany the abstract: 1

Language of filing of the international application:

English

**Box No. IX SIGNATURE OF APPLICANT OR AGENT**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).



KLEIN, Bart

For receiving Office use only		2. Drawings:  <input type="checkbox"/> received:  <input type="checkbox"/> not received:
1. Date of actual receipt of the purported international application:		
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.	

Date of receipt of the record copy by the International Bureau:

For International Bureau use only

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PCT

FEE CALCULATION SHEET  
Annex to the Request

For receiving Office use only

International application No.

Date stamp of the receiving Office

Applicant's or agent's  
file reference

402537EP

Applicant

Koninklijke KPN N.V.

CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE . . . . . EUR 102 T

2. SEARCH FEE . . . . . EUR 945 S

International search to be carried out by

(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

Basic Fee

The international application contains 19 sheets.

first 30 sheets . . . . . EUR 409 b1

remaining sheets x additional amount = b2

Add amounts entered at b1 and b2 and enter total at B . . . . . EUR 409 B

Designation Fees

The international application contains 77 designations.

10 x 88 = EUR 880 D  
number of designation fees payable (maximum 8) amount of designation fee

Add amounts entered at B and D and enter total at I . . . . . EUR 1289 I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) . . . . . P

5. TOTAL FEES PAYABLE . . . . . EUR 2336  
Add amounts entered at T, S, I and P, and enter total in the TOTAL box

TOTAL

☐ The designation fees are not paid at this time.

MODE OF PAYMENT

☒ authorization to charge deposit account (see below) ☐ bank draft ☐ coupons  
☐ cheque ☐ cash ☐ other (specify):  
☐ postal money order ☐ revenue stamps

DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ EP ☒ is hereby authorized to charge the total fees indicated above to my deposit account.

☒ (this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☒ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

28090011 19 January 2000  
Deposit Account No. Date (day/month/year)

KLEIN, Bart  
Signature Professional Representative

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# PCT

## POWER OF ATTORNEY

(for an international application filed under the Patent Cooperation Treaty)

(PCT Rule 90.4)

The undersigned applicant(s) (Names should be indicated as they appear in the request):

**Bryan Jerrel BUSROPAN**

hereby appoints (appoint) the following person as:

☒ agent

☐ common representative

**Name and address**

(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

KLEIN Bart  
c/o KONINKLIJKE KPN N.V.  
P.O. BOX 95321  
2509 CH THE HAGUE  
The Netherlands

to represent the undersigned before

☒ all the competent International Authorities

☐ the International Searching Authority only

☐ the International Preliminary Examining Authority only

in connection with the international application identified below:

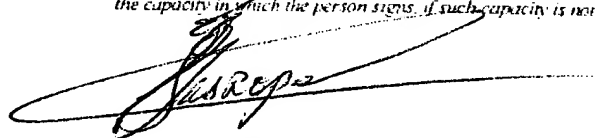
**Title of the invention:** Access-point-dependent rate fixing of tele-communication links.

**Applicant's or agent's file reference:** 402537W0

**International application number (if already available):**

filed with the following Office European Patent Office as receiving Office  
and to make or receive payments on behalf of the undersigned.

**Signature of the applicant(s)** (where there are several applicants, each of them must sign; next to each signature, indicate the name of the person signing and the capacity in which the person signs, if such capacity is not obvious from reading the request or this power);



**BUSROPAN, Bryan Jerrel**

Date: \_\_\_\_\_

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1 **ALLGEMEINE VOLLMACHT**  
**GENERAL AUTHORISATION**  
**POUVOIR GENERAL**

für amtlichen Gebrauch / For official use only  
Cadre réservé à l'administration  
Nr. der allgemeinen Vollmacht / General Authorisation No.  
N° du pouvoir général

21396 (rev.)

2 Ich (Wir) / I (We) / Je (Nous)

Koninklijke KPN N.V.  
Stationsplein 7  
9726 AE GRONINGEN  
The Netherlands

3 bevollmächtigte(n) hiermit / do hereby authorize / autorise (autorisons) par la présente

KLEIN, Bart (Professional Representative)  
KRUK, Wiggert Johan (Professional Representative)

mailing address: Koninklijke KPN N.V.  
Intellectual Property Group  
P.O. Box 95321  
2509 CH THE HAGUE  
The Netherlands

4 mich (uns) in den durch das Europäische PatentÜbereinkommen geschaffenen Verfahren in allen meinen (unseren) Patentangelegenheiten zu vertreten, alle Handlungen für mich (uns) vorzunehmen und Zahlungen für mich (uns) in Empfang zu nehmen.  
to represent me (us) in all proceedings established by the European Patent Convention and to act for me (us) in all patent transactions and to receive payments on my (our) behalf.

à me (nous) représenter pour ce qui concerne toutes mes (nos) affaires de brevet dans toute procédure instituée par la Convention sur le brevet européen et, à ce titre, à agir en mon (notre) nom et à recevoir des paiements pour mon (notre) compte.

☒ Die Vollmacht gilt auch für Verfahren nach dem Vertrag über die Internationale Zusammenarbeit auf dem Gebiet des Patentwesens.  
This authorisation shall also apply to the same extent to any proceedings established by the Patent Cooperation Treaty.  
Ce pouvoir s'applique également à toute procédure instituée par le Traité de coopération en matière de brevets.

☐ Weitere Vertreter sind auf einem gesonderten Blatt angegeben. / Additional representatives indicated on supplementary sheet.  
Les autres mandataires sont mentionnés sur une feuille supplémentaire.

5 ☒ Untervollmacht kann erteilt werden. / Sub-authorisation may be given. / Le pouvoir pourra être délégué.

6 ☒ Bitte die gelbe Kopie, ergänzt um die Nr. der allgemeinen Vollmacht, an den Vollmachtgeber zurücksenden.  
Please return the yellow copy, supplemented by the General Authorisation No., to the authorisor.  
Prière de renvoyer la copie jaune au mandant, munie du n° du pouvoir général.

Ort / Place / Lieu The Hague

Datum / Date April 27, 1999

Unterschrift(en) / Signature(s)

KLEIN, Bart (Professional Representative)

7 Das Formblatt muß vom (von den) Vollmachtgeber(n) (bei juristischen Personen vom Unterschriftsberechtigten) eigenhändig unterzeichnet sein. Nach der Unterschrift bitte den (die) Namen des (der) Unterzeichneten mit Schreibmaschine wiederholen (bei juristischen Personen die Stellung des Unterschriftsberechtigten innerhalb der Gesellschaft angeben).

The form must bear the personal signature(s) of the authorisor(s) (in the case of legal persons, that of the officer empowered to sign). After the signature, please type the name(s) of the signatory(ies) adding, in the case of legal persons, his (their) position within the company.

Le formulaire doit être signé de la propre main du (des) mandant(s) (dans le cas de personnes morales, de la personne ayant qualité pour signer). Veuillez ajouter à la machine, après la signature, le (les) nom(s) du (des) signataire(s) en mentionnant, dans le cas de personnes morales, ses (leurs) fonctions au sein de la société.

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# PATENT COOPERATION TREATY

7-5

From the RECEIVING OFFICE

## PCT

To:

Klein, Bart  
KONINKLIJKE KPN N.V.  
P.O. Box 95321  
NL-2509 CH Den Haag  
PAYS-BAS

NOTIFICATION OF THE INTERNATIONAL  
APPLICATION NUMBER AND OF THE  
INTERNATIONAL FILING DATE

(PCT Rule 20.5(c))

Date of mailing  
(day/month/year)

28 FEB 2000

Applicant's or agent's file reference  
402537W0

IMPORTANT NOTIFICATION

International application No.  
PCT/EP 00/ 00490

International filing date (day/month/year)  
24/01/2000

Priority date (day/month/year)  
22/02/1999

Applicant  
KONINKLIJKE KPN N.V.

Title of the invention

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.
2. The applicant is further notified that the record copy of the international application was transmitted to the International Bureau on the above date of mailing.
3. ☐ Other:

\* The International Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c)).

Name and mailing address of the receiving Office



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

C.A.J.A. PASCHE

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PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

PCT/EP 00 / 00490  
International Application No.

24 JAN 2000  
International Filing Date

(24.01.2000)

OFFICE EUROPEEN DES BREVETS  
DEMANDE INTERNATIONALE PCT  
Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum) 402537W0

<b>Box No. I TITLE OF INVENTION</b>	
Access-point-dependent rate fixing of telecommunication links.	
<b>Box No. II APPLICANT</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
KONINKLIJKE KPN N.V. Stationsplein 7 9726 AE GRONINGEN The Netherlands	
<input type="checkbox"/> This person is also inventor.	
Telephone No. +31 70 3323678	
Facsimile No. +31 70 3323840	
Teleprinter No.	
State (that is, country) of nationality: NL	State (that is, country) of residence: NL
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input checked="" type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<b>Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)	
BUSROPAN, Bryan Jerrel Westlandseweg 33 2624 AB DELFT The Netherlands	
This person is: <input type="checkbox"/> applicant only <input checked="" type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (If this check-box is marked, do not fill in below.)	
State (that is, country) of nationality: NL	State (that is, country) of residence: NL
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input checked="" type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	
<b>Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE</b>	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: <input type="checkbox"/> agent <input type="checkbox"/> common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)	
KLEIN, Bart KONINKLIJKE KPN N.V. P.O. Box 95321 2509 CH THE HAGUE The Netherlands	
Telephone No. +31 70 3323678	
Facsimile No. +31 70 3323840	
Teleprinter No.	
<input type="checkbox"/> Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

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## Box No. V DESIGNATION STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

## Regional Patent

- ☒ AP **ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA **Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP **European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA **OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

## National Patent (if other kind of protection or treatment desired, specify on dotted line):

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AE United Arab Emirates                  | <input checked="" type="checkbox"/> LR Liberia                                   |
| <input checked="" type="checkbox"/> AL Albania                               | <input checked="" type="checkbox"/> LS Lesotho                                   |
| <input checked="" type="checkbox"/> AM Armenia                               | <input checked="" type="checkbox"/> LT Lithuania                                 |
| <input checked="" type="checkbox"/> AT Austria                               | <input checked="" type="checkbox"/> LU Luxembourg                                |
| <input checked="" type="checkbox"/> AU Australia                             | <input checked="" type="checkbox"/> LV Latvia                                    |
| <input checked="" type="checkbox"/> AZ Azerbaijan                            | <input checked="" type="checkbox"/> MA Morocco                                   |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina                | <input checked="" type="checkbox"/> MD Republic of Moldova                       |
| <input checked="" type="checkbox"/> BB Barbados                              | <input checked="" type="checkbox"/> MG Madagascar                                |
| <input checked="" type="checkbox"/> BG Bulgaria                              | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> BR Brazil                                |  |
| <input checked="" type="checkbox"/> BY Belarus                               | <input checked="" type="checkbox"/> MN Mongolia                                  |
| <input checked="" type="checkbox"/> CA Canada                                | <input checked="" type="checkbox"/> MW Malawi                                    |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein  | <input checked="" type="checkbox"/> MX Mexico                                    |
| <input checked="" type="checkbox"/> CN China                                 | <input checked="" type="checkbox"/> NO Norway                                    |
| <input checked="" type="checkbox"/> CR Costa Rica                            | <input checked="" type="checkbox"/> NZ New Zealand                               |
| <input checked="" type="checkbox"/> CU Cuba                                  | <input checked="" type="checkbox"/> PL Poland                                    |
| <input checked="" type="checkbox"/> CZ Czech Republic                        | <input checked="" type="checkbox"/> PT Portugal                                  |
| <input checked="" type="checkbox"/> DE Germany                               | <input checked="" type="checkbox"/> RO Romania                                   |
| <input checked="" type="checkbox"/> DK Denmark                               | <input checked="" type="checkbox"/> RU Russian Federation                        |
| <input checked="" type="checkbox"/> DM Dominica                              | <input checked="" type="checkbox"/> SD Sudan                                     |
| <input checked="" type="checkbox"/> EE Estonia                               | <input checked="" type="checkbox"/> SE Sweden                                    |
| <input checked="" type="checkbox"/> ES Spain                                 | <input checked="" type="checkbox"/> SG Singapore                                 |
| <input checked="" type="checkbox"/> FI Finland                               | <input checked="" type="checkbox"/> SI Slovenia                                  |
| <input checked="" type="checkbox"/> GB United Kingdom                        | <input checked="" type="checkbox"/> SK Slovakia                                  |
| <input checked="" type="checkbox"/> GD Grenada                               | <input checked="" type="checkbox"/> SL Sierra Leone                              |
| <input checked="" type="checkbox"/> GE Georgia                               | <input checked="" type="checkbox"/> TJ Tajikistan                                |
| <input checked="" type="checkbox"/> GH Ghana                                 | <input checked="" type="checkbox"/> TM Turkmenistan                              |
| <input checked="" type="checkbox"/> GM Gambia                                | <input checked="" type="checkbox"/> TR Turkey                                    |
| <input checked="" type="checkbox"/> HR Croatia                               | <input checked="" type="checkbox"/> TT Trinidad and Tobago                       |
| <input checked="" type="checkbox"/> HU Hungary                               | <input checked="" type="checkbox"/> TZ United Republic of Tanzania               |
| <input checked="" type="checkbox"/> ID Indonesia                             | <input checked="" type="checkbox"/> UA Ukraine                                   |
| <input checked="" type="checkbox"/> IL Israel                                | <input checked="" type="checkbox"/> UG Uganda                                    |
| <input checked="" type="checkbox"/> IN India                                 | <input checked="" type="checkbox"/> US United States of America                  |
| <input checked="" type="checkbox"/> IS Iceland                               |  |
| <input checked="" type="checkbox"/> JP Japan                                 | <input checked="" type="checkbox"/> UZ Uzbekistan                                |
| <input checked="" type="checkbox"/> KE Kenya                                 | <input checked="" type="checkbox"/> VN Viet Nam                                  |
| <input checked="" type="checkbox"/> KG Kyrgyzstan                            | <input checked="" type="checkbox"/> YU Yugoslavia                                |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> ZA South Africa                              |
|  | <input checked="" type="checkbox"/> ZW Zimbabwe                                  |
| <input checked="" type="checkbox"/> KR Republic of Korea                     |  |
| <input checked="" type="checkbox"/> KZ Kazakhstan                            |  |
| <input checked="" type="checkbox"/> LC Saint Lucia                           |  |
| <input checked="" type="checkbox"/> LK Sri Lanka                             |  |

Check-boxes reserved for designating States which have become party to the PCT after issuance of this sheet:

- ☐ .....  
☐ .....

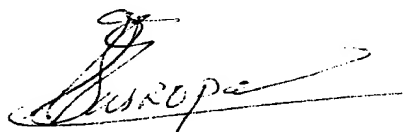
**Precautionary Designation Statement:** In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

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**Supplemental Box**

*If the Supplemental Box is not used, this sheet should not be included in the request.*

1. *If, in any of the Boxes, the space is insufficient to furnish all the information: in such case, write "Continuation of Box No. ..." [indicate the number of the Box] and furnish the information in the same manner as required according to the captions of the Box in which the space was insufficient, in particular:*
  - (i) *if more than two persons are involved as applicants and/or inventors and no "continuation sheet" is available: in such case, write "Continuation of Box No. III" and indicate for each additional person the same type of information as required in Box No. III. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below;*
  - (ii) *if, in Box No. II or in any of the sub-boxes of Box No. III, the indication "the States indicated in the Supplemental Box" is checked: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the applicant(s) involved and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is applicant;*
  - (iii) *if, in Box No. II or in any of the sub-boxes of Box No. III, the inventor or the inventor/applicant is not inventor for the purposes of all designated States or for the purposes of the United States of America: in such case, write "Continuation of Box No. II" or "Continuation of Box No. III" or "Continuation of Boxes No. II and No. III" (as the case may be), indicate the name of the inventor(s) and, next to (each) such name, the State(s) (and/or, where applicable, ARIPO, Eurasian, European or OAPI patent) for the purposes of which the named person is inventor;*
  - (iv) *if, in addition to the agent(s) indicated in Box No. IV, there are further agents: in such case, write "Continuation of Box No. IV" and indicate for each further agent the same type of information as required in Box No. IV;*
  - (v) *if, in Box No. V, the name of any State (or OAPI) is accompanied by the indication "patent of addition," or "certificate of addition," or if, in Box No. V, the name of the United States of America is accompanied by an indication "continuation" or "continuation-in-part": in such case, write "Continuation of Box No. V" and the name of each State involved (or OAPI), and after the name of each such State (or OAPI), the number of the parent title or parent application and the date of grant of the parent title or filing of the parent application;*
  - (vi) *if, in Box No. VI, there are more than three earlier applications whose priority is claimed: in such case, write "Continuation of Box No. VI" and indicate for each additional earlier application the same type of information as required in Box No. VI;*
  - (vii) *if, in Box No. VI, the earlier application is an ARIPO application: in such case, write "Continuation of Box No. VI", specify the number of the item corresponding to that earlier application and indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed.*
2. *If, with regard to the precautionary designation statement contained in Box No. V, the applicant wishes to exclude any State(s) from the scope of that statement: in such case, write "Designation(s) excluded from precautionary designation statement" and indicate the name or two-letter code of each State so excluded.*
3. *If the applicant claims, in respect of any designated Office, the benefits of provisions of the national law concerning non-prejudicial disclosures or exceptions to lack of novelty: in such case, write "Statement concerning non-prejudicial disclosures or exceptions to lack of novelty" and furnish that statement below.*



BUSROPAN  
Bryan Jerrel

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Box No. VI PRIORITY CLAIM				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application:* regional Office	international application: receiving Office
item (1) (22/02/99) 22 FEB 1999	1011358	NL		
item (2)				
item (3)				

☐ The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s):

\* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

### Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

ISA/ EP

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):

Date (day/month/year)

Number

Country (or regional Office)

2 NOV 1999

SN 32664 NL

NL

### Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets:

request : 4  
description (excluding sequence listing part) : 9  
claims : 3  
abstract : 1  
drawings : 2  
sequence listing part of description :   
Total number of sheets : 19

This international application is accompanied by the item(s) marked below:

1. ☒ fee calculation sheet
2. ☒ separate signed power of attorney
3. ☒ copy of general power of attorney; reference number, if any:
4. ☐ statement explaining lack of signature
5. ☒ priority document(s) identified in Box No. VI as item(s):
6. ☐ translation of international application into (language):
7. ☐ separate indications concerning deposited microorganism or other biological material
8. ☐ nucleotide and/or amino acid sequence listing in computer readable form
9. ☒ other (specify): search report

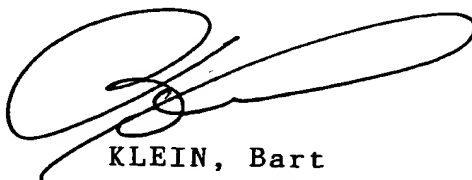
Figure of the drawings which should accompany the abstract: 1

Language of filing of the international application:

English

### Box No. IX SIGNATURE OF APPLICANT OR AGENT

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).



KLEIN, Bart

1. Date of actual receipt of the purported international application: (24. 01. 2000) 24 JAN 2000		2. Drawings: <input checked="" type="checkbox"/> received: <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA/		
6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.		

For International Bureau use only  
Date of receipt of the record copy by the International Bureau:

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From the INTERNATIONAL SEARCHING AUTHORITY

**PCT**

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL SEARCH REPORT  
OR THE DECLARATION

(PCT Rule 44.1)

To:

KONINKLIJKE KPN N.V.  
Attn. KLEIN, B.  
P.O. Box 95321  
NL-2509 CH Den Haag  
NETHERLANDS

Date of mailing  
(day/month/year)

29/03/2000

Applicant's or agent's file reference

402537W0

**FOR FURTHER ACTION**

See paragraphs 1 and 4 below

International application No.

PCT/EP 00/00490

International filing date  
(day/month/year)

24/01/2000

Applicant

KONINKLIJKE KPN N.V. et al.

*identiek aan Mb.*

1. ☒ The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

**When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

**Where?** Directly to the International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland  
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.

☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the International application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the International application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Lilliane Van Velzen-Peron

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## NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

### INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

#### What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

#### When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

#### Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

#### How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

#### What documents must/may accompany the amendments?

##### Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

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## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:  
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:  
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:  
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or  
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:  
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

### "Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

**It must be in the language in which the international application is to be published.**

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

### Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

### Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

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From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

KLEIN, B.  
KONINKLIJKE KPN N.V.  
P.O. Box 95321  
NL-2509 CH Den Haag  
PAYS-BAS

NOTIFICATION OF RECEIPT  
OF DEMAND BY COMPETENT INTERNATIONAL  
PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(e) and 61.1(b), first sentence  
and Administrative Instructions, Section 601(a))

Date of mailing  
(day/month/year)

16.08.00

Applicant's or agent's file reference

402537W0

## IMPORTANT NOTIFICATION

International application No.

PCT/EP 00/00490

International filing date (day/month/year)

24/01/2000

Priority date (day/month/year)

22/02/1999

Applicant

KONINKLIJKE KPN N.V. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

01/08/2000

2. This date of receipt is:



the actual date of receipt of the demand by this Authority (Rule 61.1(b)).



the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).



the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ **ATTENTION:** That date of receipt is **AFTER** the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the *PCT Applicant's Guide*, Volume II.



(If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

Name and mailing address of the IPEA/

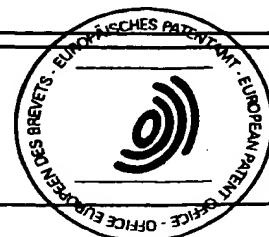


European Patent Office  
D-80298 Munich  
Tel. (+49-89) 2399-0, Tx: 523656 epmu d  
Fax: (+49-89) 2399-4465

Authorized officer

NOVELLI C

Tel. (+49-89) 2399-8641



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The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ EP

# PCT

## CHAPTER II

### DEMAND

under Article 31 of the Patent Cooperation Treaty:

The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only		
Identification of IPEA		Date of receipt of DEMAND
<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>		Applicant's or agent's file reference
International application No. PCT/EP00/00490	International filing date (day/month/year) (24/01/2000) 24 January 2000	(Earliest) Priority date (day/month/year) (22/02/1999) 22 February 1999
Title of invention Access-point-dependent rate fixing of telecommunication links.		
<b>Box No. II APPLICANT(S)</b>		
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)  KONINKLIJKE KPN N.V. 7 Stationsplein 9726 AE GRONINGEN The Netherlands		Telephone No.: +31 70 332 30 91 Facsimile No.: +31 70 332 38 40 Teleprinter No.:
State (that is, country) of nationality: NL	State (that is, country) of residence: NL	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)  BUSROPAN, Bryan Jerrel Westlandseweg 33 2624 AB DELFT The Netherlands		
State (that is, country) of nationality: NL	State (that is, country) of residence: NL	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		
State (that is, country) of nationality:	State (that is, country) of residence:	
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.		

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**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**The following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation.  
The address must include postal code and name of country.)*KLEIN, Bart  
KONINKLIJKE KPN N.V.  
P.O. BOX 95321  
2509 CH THE HAGUE  
The Netherlands

Telephone No.:

+31 70 332 30 91

Facsimile No.:

+31 70 332 38 40

Teleprinter No.:

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:\***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filedthe description ☒ as originally filed  
☐ as amended under Article 34the claims ☒ as originally filed  
☐ as amended under Article 19 (together with any accompanying statement)  
☐ as amended under Article 34the drawings ☒ as originally filed  
☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

**Language for the purposes of international preliminary examination:** English☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.**Box No. V ELECTION OF STATES**The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

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**Box No. VI CHECK LIST**

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- |  |   |        |
|--|---|--------|
| 1. translation of international application                              | : | sheets |
| 2. amendments under Article 34   | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19  | : | sheets |
| 5. letter  | : | sheets |
| 6. other ( <i>specify</i> )  | : | sheets |

For International Preliminary Examining Authority use only

received                      not received

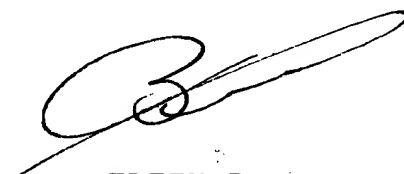
<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

The demand is also accompanied by the item(s) marked below:

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet  | 4. <input type="checkbox"/> statement explaining lack of signature                                  |
| 2. <input type="checkbox"/> separate signed power of attorney                                       | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input checked="" type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input type="checkbox"/> other ( <i>specify</i> ):   |

**Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE**

*Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).*



KLEIN Bart

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1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

- |  |   |
|--|---|
| 3. <input type="checkbox"/> The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.                        | <input type="checkbox"/> The applicant has been informed accordingly. |
| 4. <input type="checkbox"/> The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.                               |   |
| 5. <input type="checkbox"/> Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82. |   |

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Demand received from IPEA on:

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## PCT

## FEE CALCULATION SHEET

## Annex to the Demand for international preliminary examination

International application No. <b>PCT/EP00/00490</b> <hr/> Applicant's or agent's file reference <b>402537W0</b> <hr/> Applicant <div style="text-align: center; padding: 10px;"><b>KONINKLIJKE KPN N.V.</b></div> <hr/> <b>Calculation of prescribed fees</b>  1. Preliminary examination fee ..... <span style="border: 1px solid black; padding: 2px;">EUR</span> <span style="border: 1px solid black; padding: 2px;">1533</span> <span style="border: 1px solid black; padding: 2px;">P</span>  2. Handling fee ( <i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i> ) ..... <span style="border: 1px solid black; padding: 2px;">EUR</span> <span style="border: 1px solid black; padding: 2px;">147</span> <span style="border: 1px solid black; padding: 2px;">H</span>  3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box ..... <span style="border: 1px solid black; padding: 2px;">EUR</span> <span style="border: 1px solid black; padding: 2px;">1680</span> <div style="text-align: center; border: 1px solid black; padding: 2px;"><b>TOTAL</b></div> <hr/> <b>Mode of Payment</b>  <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <input checked="" type="checkbox"/> authorization to charge deposit account with the IPEA (see below)  <input type="checkbox"/> cheque  <input type="checkbox"/> postal money order  <input type="checkbox"/> bank draft             </div> <div style="width: 45%;"> <input type="checkbox"/> cash  <input type="checkbox"/> revenue stamps  <input type="checkbox"/> coupons  <input type="checkbox"/> other (specify):             </div> </div> <hr/> <b>Deposit Account Authorization</b> ( <i>this mode of payment may not be available at all IPEAs</i> )  The IPEA/ <u>EP</u> <input checked="" type="checkbox"/> is hereby authorized to charge the total fees indicated above to my deposit account.  <input checked="" type="checkbox"/> ( <i>this check-box may be marked only if the conditions for deposit accounts of the IPEA so permit</i> ) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">         For International Preliminary Examining Authority use only           Date stamp of the IPEA       </div> <div style="border: 1px solid black; height: 300px; margin-top: 10px;"></div>
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28090011  
 Deposit Account Number

31 July 2000  
 Date (day/month/year)

Signature **Bart Klein**

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1 **ALLGEMEINE VOLLMACHT**  
**GENERAL AUTHORISATION**  
**POUVOIR GENERAL**

AV Nr. (bitte bei jeder Korrespondenz angeben)  
GA No. (please quote in all correspondence)  
PG n° (prière de mentionner dans toute correspondance)

21396 (rev)

2 Ich (Wir) / I (We) / Je (Nous)

Koninklijke KPN N.V.

Stationsplein 7

9726 AE GRONINGEN

The Netherlands

3 bevollmächtige(n) hiermit / do hereby authorise / autorise (autorisons) par la présente

the following employees of Koninklijke KPN N.V.

KLEIN Bart (Professional Representative)

KRUK Wiggert Johan (Professional Representative)

WUYTS Koenraad Maria (Professional Representative)

mailing address: Koninklijke KPN N.V.  
Intellectual Property Group  
P.O. Box 95321  
2509 CH THE HAGUE  
The Netherlands

4 mich (uns) in den durch das Europäische Patentübereinkommen geschaffenen Verfahren in allen meinen (unseren) Patentangelegenheiten zu vertreten, alle Handlungen für mich (uns) vorzunehmen und Zahlungen für mich (uns) in Empfang zu nehmen.  
to represent me (us) in all proceedings established by the European Patent Convention and to act for me (us) in all patent transactions and to receive payments on my (our) behalf.

à me (nous) représenter pour ce qui concerne toutes mes (nos) affaires de brevet dans toute procédure instituée par la Convention sur le brevet européen et, à ce titre, à agir en mon (notre) nom et à recevoir des paiements pour mon (notre) compte.

☒ Die Vollmacht gilt auch für Verfahren nach dem Vertrag über die internationale Zusammenarbeit auf dem Gebiet des Patentwesens.  
This authorisation shall also apply to the same extent to any proceedings established by the Patent Cooperation Treaty.  
Ce pouvoir s'applique également à toute procédure instituée par le Traité de coopération en matière de brevets.

☐ Weitere Vertreter sind auf einem gesonderten Blatt angegeben. / Additional representatives indicated on supplementary sheet.  
Les autres mandataires sont mentionnés sur une feuille supplémentaire.

5 ☒ Untervollmacht kann erteilt werden. / Sub-authorisation may be given. / Le pouvoir pourra être délégué.

6 ☒ Bitte die gelbe Kopie, ergänzt um die Nr. der allgemeinen Vollmacht, an den Vollmachtgeber zurücksenden.  
Please return the yellow copy, supplemented by the General Authorisation No., to the authorisor.  
Prière de renvoyer la copie jaune au mandant, munie du n° du pouvoir général.

Ort/Place/Lieu The Hague

Datum/Date June 06, 2000

Unterschrift(en) / Signature(s)

B. KLEIN (Head Intellectual Property Group)

7 Das Formblatt muß vom (von den) Vollmachtgeber(n) (bei juristischen Personen vom Unterschriftsberechtigten) eigenhändig unterzeichnet sein. Nach der Unterschrift bitte den (die) Namen des (der) Unterzeichneten mit Schreibmaschine wiederholen (bei juristischen Personen die Stellung des Unterschriftsberechtigten innerhalb der Gesellschaft angeben).

The form must bear the personal signature(s) of the authorisor(s) (in the case of legal persons, that of the officer empowered to sign). After the signature, please type the name(s) of the signatory(ies) adding, in the case of legal persons, his (their) position within the company.

Le formulaire doit être signé de la propre main du (des) mandant(s) (dans le cas de personnes morales, de la personne ayant qualité pour signer). Veuillez ajouter à la machine, après la signature, le (les) nom(s) du (des) signataire(s) en mentionnant, dans le cas de personnes morales, ses (leurs) fonctions au sein de la société.

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therefore as a special access point. As a result, the reduced rate cannot be offered to many subscribers in a reliable manner.

- From WO9713387 a state-of-the-art method and system for
- 5 identification of home area (H) are known. The home area is defined by the coverage area for one or more base stations in the mobile telecommunication system. At registration of home area, a customer (K) calls the mobile telephone system via a special call number. The mobile telephone system
- 10 identifies the call number as well as the customer in question. After that, an equipment for recording of home area (I) is initiated. The customer after that travels around in the intended home area at which the telecommunication system registers which base
- 15 station/stations (B) are activated during said registration phase. The registration phase can relate to one or more calls to the mobile telephone system. Information regarding which base stations that are activated in connection with registration of the home area (H) is transmitted from the
- 20 mobile telephone system to the equipment for recording of home area. The information is after that registered in a database (D). The customer after that may have access to certain services within the home area or a lower charge than in the rest of the mobile telephone network.
- 25 An object of the invention is to facilitate access-point-dependently rating telecommunication links in a simpler, more flexible and, at least in the long run, more reliable manner than the state-of-the-art methods and systems do.
- 30 According to the present invention, said object is realised by determining the access point wherein, for a specific subscriber, specific rates are coupled to be carried out as laid down in claim 1. The invention may also be embodied in a system according to claim 8, which is
- 35 specifically arranged for carrying out the method according

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## CLAIMS

1. Method for access-point-dependent calculation of telecommunication rates by way of a specific network, comprising:
- generating connecting data in response to obtaining and using, by a subscriber or group of subscribers, telecommunication links (3-10), which connecting data each time contains data which identifies a network-access point (11-18, 48) used by a subscriber;
  - during a specific period of time storing, in a connecting-data file (30), said connecting data, and
  - as a function of intensities of use of access points (11-18, 48) per subscriber or group of subscribers in said period of time, processed from said connecting-data file, determining to which of the access points (11-18) certain rates are coupled for said subscriber or group of subscribers.
2. Method according to claim 1, said subscribers or members of said group of subscribers each time identifying themselves at least before, during or after obtaining a link, to the network by way of an access-point-independent identification code.
3. Method according to claim 1 or 2, said network being a mobile network whose access points (11-18) communicate wirelessly with connected subscribers in zones (19-26) served by the access points (11-18, 48) in question.
4. Method according to any of the preceding claims, the determination to which of the access points (11-18) of said network specific rates are coupled for a specific subscriber or group of subscribers, taking place in response to data on the use of individual network access

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points (11-18, 48) by said subscriber or said group of subscribers.

5. Method according to any of the preceding claims, the  
5 determination to which of the access points (11-18) of said network rates determined for a specific subscriber or group of subscribers are coupled, at least partly taking place in response to data on the use of individual access points (48) of a different network (56) by said subscriber or  
10 group of subscribers.

6. Method according to claim 5, the determination to which  
of said access points (11-18) of said network there are coupled special rates for a subscriber or group of  
15 subscribers in response to data on the use of individual network access points (48) of a different network (46), taking place on the basis of statistical relationships between the use of individual access points (11-18) of the one network and individual access points (48) of the other  
20 network (46) by respective subscribers to both networks in general.

7. Method according to any of the preceding claims, in which, during the determination, as a function of data on  
25 access points (11-18, 48) used in said period of time, to which of the access points (11-18) of said network, specific rates for said subscriber or group of subscribers are coupled, taking place by determining the greatest aggregated use of two or more adjacent ones of said access  
30 points (11-18) by said subscriber or group of subscribers.

8. Telecommunications system arranged for  
access-point-dependent calculation of telecommunication rates, comprising:  
35 - a telecommunications network;

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- a recording structure (27, 27', 27", 29) for generating connecting data in response to obtaining or using, by a subscriber or group of subscribers, telecommunication links (3-10), which connecting data each time contains data identifying a network-access point (11-18, 48) used by a subscriber;
  - a memory structure (30) for, during a specific period of time, storing said connecting data as a connecting-data file, and
  - a processor structure (29, 32) arranged for determining, as a function of intensities of use of network-access points (11-18, 48) per subscriber or group of subscribers in said period of time, to which of the access points (11-18) certain rates are coupled for said subscriber or group of subscribers.
9. System according to claim 8, said network being a mobile network and the access points (11-18) of said network being constituted by transmitters and receivers of said network.
10. System according to claim 8 or 9, further comprising at least a connection for connecting to a different network (46), said recording structure (27, 27', 27", 29) and said connection being arranged for receiving and recording connecting data on the use of access points (48) of said different network (46).
11. System according to claim 10, one of said networks being a non-mobile network (46) and the other of said networks being a mobile network.
12. System according to claim 10, one of said networks being a wide-area network and the other of said networks being a fine-meshed network.

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